DOCUMENT RESUME

ED 088 575 PS 007 078

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TITLE	Screening Kindergarten Children for Early Intervention through Direct Observation of Classroom Behavior.
INSTITUTION	California State Coll., Los Angeles. Special Education Center.; California Univ., Los Angeles. Graduate School of Education
SPONS AGENCY	California State Dept. of Education, Sacramento. Div. of Special Education.
REPORT NO	TR-SERP-1973-A3
PUB DATE	Sep 73
NOTE	45p.; For related document, see PS 007 079
EDRS PRICE	MF-$0.75 HC-$1.85
DESCRIPTORS	*Classroom Observation Techniques; Exceptional (Atypical); Handicap Detection; Individual Differences; *Kindergarten Children; *Prediction; Special Education; *Student Behavior; *Teacher Rating

ABSTRACT

The purpose of this study is to determine if children identified as "at risk" on the basis of their observable classroom behavior at the beginning of their kindergarten year are also the same children whom teachers see as having problems much later in the year. Kindergarten children were observed in the fall and spring. Teachers were asked to rate the children in terms of classroom functioning. Results indicated that certain classroom behaviors, characterized by impulsive over-activity in both on- and off-task situations, might be an area worthy of further study. Implications for uses of these techniques in identifying potential risk children are discussed. (SBT)

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SCREENING KINDERGARTEN CHILDREN FOR EARLY INTERVENTION THROUGH DIRECT OBSERVATION OF CLASSROOM BEHAVIOR

by

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Technical Report SERP 1973-A3

Prepared under Contract #5056 Between the
California State Department of Education and
the University of California, Los Angeles

Graduate School of Education
University of California
Los Angeles

September 1973

PS 007078

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Foreword

The study reported here was part of a program of research in Special Education now in progress in the Graduate School of Education, University of California, Los Angeles, and the Department of Special Education, California State College at Los Angeles. Studies were carried out during the academic year 1973 under the auspices of the Special Education Research Project, supported by Contract #5053 between the California State Department of Education and the University of California, Los Angeles.

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Barbara K. Keogh, Ph. D.
Director
Special Education Research Program

September, 1973

TABLE OF CONTENTS

	Page
LIST OF TABLES	
INTRODUCTION	1
SAMPLING	3
PROCEDURE	4
STATISTICAL TREATMENT	9
RESULTS	10
DISCUSSION	15
IMPLICATIONS FOR PUBLIC SCHOOL	18
REFERENCES	23
TABLES	25
APPENDICES	

LIST OF TABLES

TABLE

1. Mean Percentages for October Observation (N=106)

2. Mean Percentages for March Observation (N=94)

3. Mean Percent of Time in Which Children Received Response From Teacher and Peers for On-task (VP+AT) and Off-task (NA+D) Behavior in October

4. Mean Percent of Time in Which Children Received Response From Teacher and Peers for On-task (VP+AT) and Off-task (NA+D) Behavior in March

5. Number of Children and Percent of Male and Minority Enrollment for Each Classroom

6. Mean Teacher Ratings for October and March

7. Analyses of Variance for Percent of On-task Behavior in October and March

8. Analysis of Covariance for Differences in On-task Behavior From October to March (October Teacher Rating as Covariant)

9. Correlations Between Total Percentages of Selected Observable Behaviors and Total Teacher Ratings for Both October and March (N=94)

10. Correlations Between Teacher Ratings and Total On-task Behavior For Both Periods by Classroom

11. Classroom Ranking of Lowest Seven Children in Each Classroom by Percent of On-task (VP+AT) Behavior in October Together With Their Teacher Ratings and On-task Behavior in March

SCREENING KINDERGARTEN CHILDREN FOR EARLY INTERVENTION THROUGH DIRECT OBSERVATION OF CLASSROOM BEHAVIOR[1]

Steven R. Forness[2]

Previous research under the present project (Forness, 1972; Forness and Esveldt, in press) as well as that by other investigators (Bryan and Wheeler, 1972; Cobb and Hops, in press; Gampel, Harrison and Budoff, 1972; Nelson, 1971) has demonstrated that significant differences exist in observable classroom behavior between atypical children and their normal peers in the same classroom. In these studies, trained observers typically sit at the rear of the classroom and observe one or several children at regular specified intervals and record each child's behavior under certain well-defined categories such as the child's attention to the task, out-of-seat or non-task behavior, and the like. Observers may do this over a period of one or two days or for much longer periods. Differences seem to be

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[1]In addition to SERP funds, the present project was also supported by U.S. Office of Education Grant OEG-0-72-3974(G03), NICHD Grants HD-04612, HD-00345, HD-05615 to the UCLA Mental Retardation Program and NIH Special Research Resources Grant RR-3 to the UCLA Health Sciences Computing Facility.

[2]The author would like to acknowledge the valuable assistance and dedication of the observers on the project, Ms. Patti Boyle and Ms. Linda Mazer, as well as their supervisor, Ms. Karen Esveldt. Additional heartfelt thanks are due to Ms. Annette Marks, Ms. Elaine Robbins, Ms. Barbara Root and Ms. Alice Weller who made the research possible, to Ms. Minnie Lindsay and Mr. Marv Goldensen for their continued support and encouragement and to Dr. Donald Guthrie and Mr. Angel Hernandez for data processing assistance.

observed primarily in such areas as attending to the task or teacher, peer interaction and frequency of disruptive behavior and have been demonstrated with a variety of exceptional children in grades one through six.

While direct observation in the classroom can be cumbersome both in time and technique, there are several advantages to using this approach over traditional screening techniques which tend to have a variety of limitations. Teacher identification or teacher rating scales, for example, may at times suffer from teacher bias (Jackson, Silberman and Wolfson, 1969; Silberman, 1969). Group testing, while economical, cannot be used effectively until children have mastered reading skills sufficiently to take the tests, usually not until second or third grade. Individual testing is not only economically prohibitive as a screening device but, like group testing, suffers from a variety of limitations including neglect of situational or motivational variables (Forness, 1970; Keogh, 1972). Observational data, on the other hand, appears not only to be free from such problems but has been shown to be significantly related to academic achievement (Cobb 1970, 1972) and intelligence (Forness 1972, Lahaderne 1968).

The present study is based on the assumption that, if observable differences in classroom behavior appear to be representative of school-problem children, then such differences, as they emerge early in kindergarten, should also serve to predict which children are headed for difficulty. The question is whether children in kindergarten who are significantly different in terms of observable behavior from their classmates, are the same children who later become candidates for some form of special education. The purpose of the present study, then, is to determine if children identified as "at risk" on the basis of their observable classroom behavior at the beginning of their kindergarten year are also the same children whom teachers see

as having problems much later in the year. If such is the case, classroom observation can be used as an effective, relatively unbiased screening technique to identify children in need of early intervention--intervention designed to prevent school problems from becoming more serious.

SAMPLING

Subjects for the present study were 106 children in four kindergarten classes all located in the same elementary school of a large metropolitan school district. There were an average of 26.5 children in each class (range 25 to 28). Teachers in all four classes were female, and each had at least three years teaching experience prior to the study. The school, adjacent to a housing project, was composed of children from predominantly lower middle class families with high minority enrollment. Racial distribution for the total sample was as follows: 48 percent white, 38 percent Spanish surname, 8 percent black and 6 percent other racial designations. Fifty-two percent of the total sample were boys.

This particular school was selected since many of its students were potentially "high-risk" children in terms of educational prognosis. During the same year as the study, group testing of sixth graders in the same school revealed a median IQ of 85 and reading and arithmetic scores which were in the lowest quartile of national norms for the test used (Los Angeles Times, May 11, 1973). Fewer than ten percent of the schools in the same district had a median IQ which was lower. In a practical sense, such a school was representative of those in critical need of early identification and intervention techniques.

PROCEDURE

Whenever possible, the present project was designed to simulate actual conditions in the public schools where observational techniques would ultimately be used if proven effective. This is not to say that scientific rigor was sacrificed; however, anyone who has done research under actual conditions in public school classrooms is aware that not all variables are under experimental control. Such problems and limitations have been acknowledged herein wherever possible.

The school staff and teachers involved were contacted in late spring regarding their interest and involvement in the project. A second planning session was held in the fall before classes began. The teachers were told that all children in their classes would be observed over a period of days at the beginning of the school year and again after the end of the first semester. They were also told that they would be required to rate each child in certain academic and behavioral areas at the end of each observation period. They were further told the general nature of the project, to identify children in need of special help through observational techniques, but were not given information on specific observation categories.

While it was the author's initial desire to observe the children once at the beginning and once at the end of the school year, it was agreed after consultation with the teachers that the second observation take place early in the second semester so that high-risk children could be given whatever special preventive intervention they needed, as early as possible. While a longer period between observations was desirable in order to establish more clearly which children were truly at risk and avoid mis-identifying children who were merely slow starters, an earlier second observation period was agreed upon in response to practical (and valid)

teacher concerns for their children's educational progress. The interventions, while not actually a part of the present project, will be discussed later in this paper.[3]

The first observation phase was begun in late October and ended in mid-November. The second observation phase was begun in late February and ended in mid-March. Both phases will be hereinafter referred to as the October and the March observations, respectively. During each observation phase, each child was observed for a minimum of ten school days during the same period each day. Since several children were absent one or more days during an observation phase, it was therefore necessary to observe each class for more than ten days. Thus, the number of actual observations per child ranged from 10 to 18 (mean=13.8, s.d.=2.14) during the October observation and from 10 to 19 (mean=14.2, s.d.=2.02) during the March observation.

Observers were female and in their early twenties. Both were trained over a period of two weeks prior to the October observation in a classroom of a laboratory school located on the university campus. They subsequently spent one week in the two classrooms in which they would be observing in order to learn the first names (and surnames, if needed) of the children in each classroom. While less observer bias may have been involved in identifying children by number rather than name, the practical problems of having children wear numbers in the classroom

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[3]It should also be noted that data as well as subjects from the present project were also a part of a second SERP project under Dr. Lawrence Becker. His project was begun after the present project was completed in April, and interested readers are encouraged to consult SERP technical report Keogh, B. and Becker, L. "Behavioral characteristics and learning styles of educationally high-risk kindergarten children." (1973).

for identification purposes and the inevitable and repeated use of the child's name by the teacher precluded any serious consideration of this technique.

Observers were introduced to the teachers who were in turn given the following instructions. They could, if they wished, introduce the observer to their children as a teacher in training who would be observing in their classroom for a few weeks. They were asked to give each observer a description of the types of activity which were typical of that period of the day and of the general classroom rules which prevailed for that period. They were instructed not to interact with the observer in any fashion during the class period nor to attempt to discuss individual children with the observer at any time. The observers themselselves were asked to discourage such interaction and were further instructed that, if a child attempted to interact with them during the class period, they were to ignore the child or redirect him back to his activity.

The observations were done in the following fashion. The observer was supplied with a clipboard and stopwatch marked at six-second intervals. On the clipboard were observation sheets which contained spaces for the daily record for each child (See Appendix). The observer looked at the child whose name first appeared on the observation sheet (order of observation was held constant for each observation phase), determined the child's behavior and put a tally mark beside the corresponding behavior on the record sheet under the appropriate response condition. This sequence was completed within a six-second interval. The remaining children in the classroom were observed in sequence at consecutive six-second intervals until all children had been observed once. The entire sequence was then repeated until each child had been observed for ten six-second intervals during that period, a process which took approximately 25 to 30 minutes daily for each classroom.

As nearly as possible, children were observed in all four classrooms during similar conditions i.e., during a group activity or discussion in which the teacher directed the group from the front of the room and in which children were required to participate at the teacher's direction (e.g. show and tell, classroom news, storytelling etc.). Observers sat at the rear of the group and slightly to one side where eye or head orientation of the children could be observed.

Behavior categories and detailed definitions are provided in the appendix. There were four behaviors in which a child could be engaged, and these are described briefly below:

Verval Positive (VP) - pupil makes a task-oriented verbal response (e.g., recites, asks or answers a question, etc.)

Attend (AT) - pupil looks at teacher or materials, waits quietly for lesson to begin, looks at classmate who is reciting, etc.

Not Attend (NA) - pupil does not attend to lesson or teacher, i.e., looks around, stares into space, etc.

Disrupt (D) - pupil engages in behavior which interrupts on-task activities, e.g., talks to classmate when not permitted, speaks out of turn, hits classmate, throws objects, etc.

Each of these categories were treated as mutually exclusive. For example, if a child was asking a question, the behavior was recorded as "verbal positive" even though the child could also be considered to be attending at the same time. If a child was being disruptive the behavior was recorded as "disrupt" even though the child could also be considered to be not paying attention as well. Thus, only one category of behavior applied during a single interval.

These behaviors were recorded under three conditions (see Appendix for complete descriptions). If the teacher or a classmate was interacting with the child during the interval, the behavior was tallied under the "teacher response" or "peer response" columns. If no observable response to the child's behavior was noted in the interval, then the behavior was tallied under the "no response" column. Thus the amount of time a child engaged in a behavior as well as the response which that behavior received from a person in the classroom could be recorded.

Reliability of the observers was established prior to the October observation and again prior to the March observation, in the university laboratory classroom. Observers recorded the behaviors of the same group of children simultaneously but independently with a third trained observer. Reliability was computed by dividing each observer's number of exact agreements with the third observer on behavior category and response during an interval by the number of agreements plus disagreements. Reliabilities were .87 and .89 respectively for each observer in the first phase and .91 and .94 in the second phase.

After each observation phase had been completed in November and again in March, the teachers were asked to rate each of their children individually in three areas: (1) Reading readiness and language development (2) Relationships with other children (3) Attitude toward classroom rules (See Appendix for Teacher Evaluation form). The time of the rating coincided with the quarterly deadline for teacher progress reports to parents, and teachers were instructed to use the same criteria and definitions for these areas of functioning as they would normally use for their progress reports (See example in Appendix: "Kindergarten Progress: 20th Week Report"). Teachers were asked to rate each child in each area on a five-point

scale (1 poor to 5 very well) compared to other children in her class. Arithmetic sums of the three scores were used as a single numerical teacher rating (3 to 15) for the child at that point in time. Previous research has indicated that simple teacher ratings such as the above can have high predictive validity in identifying educationally high-risk children (Haring and Ridgeway, 1967; Keogh and Smith, 1970).

To summarize, then, children were observed in their classrooms for a minimum of ten days at the beginning of the school year and for a similar amount of time in the second semester. A time sampling technique was used such that children were observed in succession at six-second intervals for a total of one minute of observation per child per day. Behaviors were recorded in one of four categories under one of three possible responses to that behavior. When all observations were completed for each phase, teachers were asked to rate each child in three areas of classroom functioning.

STATISTICAL TREATMENT

Although all children were observed for the same amount of time each day, they were observed for varying number of days during each observation phase. It was thus necessary to convert totals in each behavior category into percentages. Categories could be collapsed, when necessary, such that the percentage for a particular behavior could be reported across all response conditions. The percentage of time a child received a response from the teacher or his peers could also be reported across all behaviors as a measure of time the teacher appeared to be involved with a particular child relative to other children or the relative amount of time the

child interacted with his peers. As mentioned in the previous section, teacher ratings for each child in three areas of classroom functioning were summed and thus ranged from a low score of 3 to a perfect score of 15 for each child.

Means and standard deviations were computed for all data on UCLA Health Sciences Computer Program #BMDO1D. Correlations between teacher ratings in October and March, between observation percentages in October and March and between observation percentages and teacher ratings both between and within phases were computed on Computer Program #BMDO2D (Correlation with transgeneration). Analysis of variance (observation x race x sex x classroom) between observation percentages in October and March and anlysis of covariance (with teacher ratings in October as a covariant) were also computed on Computer Program BMDP1V.

It was thus possible to answer such questions as which variables (observation data vs. teacher ratings) in October appeared to predict classroom functioning later in the year, to generate profiles of particular children referrable to the profile of the group at large, and to determine if certain of these variables were dependent on sex or race of the child.

RESULTS

Mean percentages of time in which children were engaged in various behaviors are presented in Table 1 for the October observation and in Table 2 for the March observation. Twelve subjects left school between October and March so that the final number of subjects was 94. On the average, children in the sample spent approximately 82 percent of their time in on-task (total positive) behavior at the beginning

of the year and slightly more than that towards the end of the year. Actual disruptive behavior was almost non-existent, on the average, and positive verbal participation was relatively slight. It should be noted that these percentages refer only to the "typical profile" of the kindergarten child in this sample and that there was considerable variation within the sample. There were also substantial differences among classrooms, children in classroom 1 generally having higher rates of off-task behavior.

The same variation held for percentages of teacher and peer response to behavior for both observations as presented in Tables 3 and 4. Peer response to behavior was twice as frequent as teacher response and more or less equally given to on-task and off-task behavior. Teachers, on the other hand, appeared to respond much more often to on-task behavior. Such differences cannot necessarily be interpreted as qualitative, however, since there was generally a much higher frequency of on-task behavior (Tables 1 and 2) and more peers available to respond to a particular behavior than there were teachers.

Referrable to the apparent marked differences among classrooms, the breakdown of sex and racial differences is presented in Table 5. Note that classroom 1 has not only more children but also the highest percent of minority enrollment and the second lowest male enrollment. The teacher ratings for that classroom (Table 6) are also correspondingly lower for both observation phases. This raises the possibility that gains over the year in observable behavior were somehow associated with minority or sexual status or even with membership in a particular classroom. To test this hypothesis, a multiple classification analysis of variance (sex x race x classroom) was generated for percent of on-task behavior (VP+AT) in both observation periods.

Since there were some cells, given the present sample, which would have had extremely small or no frequencies, it was decided to collapse the four racial categories into two categories (white and non-white) for purposes of the analysis. The results of the multiple classification analysis of variance are presented in Table 7 for both the October and March data. It can be seen that there were significant main effects by classroom and sex in October and by classroom, sex and race in March. As might be expected the data indicated that classroom 2 was higher than classrooms 3 and 4 which in turn were higher than classroom 1 and that girls were higher than boys in percent of on-task behavior. For the March observation, whites were higher than non-whites. There were, however, no significant interaction effects among any of these variables.

With regard to teacher ratings, it should be noted that, when multiple-classification analysis of variance were generated on the October and March observation data (separately as in Table 7) employing teacher ratings as a covariant, the main effects for classroom continued to be significant. Sex was no longer a significant variable, but race continued to be significant in March. There were, moreover, significant main effects for the covariant itself on both occasions (F values = 13.01 and 24.01, respectively, for teacher ratings in October and March).

Given the possibility that membership in a particular classroom (and by inference a teacher's perception of a child's classroom behavior) might somehow have affected the child's ability to make <u>progress</u> in terms of observable behavior, an analysis of covariance was generated using differences in observable behavior from one observation phase to the next with the initial teacher rating in October as a covariant. As can be seen in Table 8, no significant effects were noted for any variable in question.

Correlations between selected observable behaviors (total percentages across all response categories) and total teacher ratings for both observation periods are presented in Table 9 . As indicated in the table, correlations above .27 are considered significant at .01 level of confidence (d.f.=92). Each of the four separate behaviors observed in October were predictive of the same behaviors observed again in March with correlations ranging from .51 to .71. The same was true of total on-task behavior.

As for the validity of predictions between teacher ratings and observable behavior from one observation to the next, it can be seen from Table 9 that teacher ratings in October were predictive of total on-task behavior in March (r=.49) and, conversely, that observable behavior (on-task) in October was predictive of teacher ratings in March (r=.44). Disruptive behaviors tend to have higher predictive validity, in this regard, than other individual behaviors even though disruptive behavior was lowest in frequency among all four categories.

Teacher ratings in October were notably predictive (r=.86) with teacher ratings in March. Table 10 presents a breakdown of the main correlations by classroom. Considerable variability is evident not only among classrooms but within classrooms as to the predictive validity of both teacher ratings and observable behaviors. During the October observation, there were significant correlations, as might be expected, between verbal positive behavior and teacher and peer response to on-task behavior. There were, however, significant negative correlations between verbal positive behavior and attention during both observation periods (r=-.43 and -.34) as well as a significant positive correlation (r=.31) between verbal

positive behavior and disruptive behavior in October, all of which might suggest an "impulsivity" factor, i.e., children who are overactive both appropriately and inappropriately. Possibly related to this were significant negative correlations (ranging from -.30 to -.70) between attention and teacher and peer responses to both on-and off-task behaviors during October. Conversely, there were high correlations (.39 to .71) between off-task behaviors (not attend and disrupt) and both teacher and peer response to off-task behavior. In other words, children with low attention appear to receive high response to their behavior (or at least tend to evidence more such behavior which demands a response) and may tend to be the same children who are impulsive.

While the above correlations indicate a significant relationship between on-task behavior observed in October and "at risk" status of children as rated by teachers later in the year, Table 11 provides further illustration of these relationships for individual children. If one uses a "risk" measure of one standard deviation below the mean percent of on-task behavior for each classroom (as derived from Table 1), it is evident that anywhere from three (in classroom 3) to six (in classroom 1) children per classroom would be determined potentially at-risk in October. Thus, a total of 18 children in the sample (17 percent) could be considered at-risk based on such predictive techniques. Using a criteria of one standard deviation below the mean teacher rating for each classroom in March (as derived from Table 6), it is clear that 10 of these 18 subjects or 9.4 percent of the total sample continued at-risk as rated by teachers in March (Three subjects, all in classroom 4, left school for unknown reasons; two of these were in the at-risk group).

DISCUSSION

While kindergartners in the present sample were generally characterized by high percentages of on-task behavior, there was considerable variability among individuals, most of which was accounted for in the area of attending behavior. Although active participatory or disruptive behavior accounted for only a small fraction of the total behavior observed, there were indications that this behavior was somewhat critical in terms of teachers' perceptions of children's classroom functioning. Although the intensive quality of such behaviors renders them of immediate importance for classroom management, such behaviors are somewhat difficult to tap using continuous observation techniques since they seem to occur at relatively low frequencies. A compromise strategy might be to monitor attention on a continuous time sampling basis while counting high intensity behaviors whenever and wherever they occur. Given the sporadic and yet compelling nature of such occurences in the classroom, it is conceivable that a single observer could interrupt continuous monitoring on a time-sampling basis to record occasional disruptive occurences, attributing them to the appropriate parties. The observer could then resume continuous monitoring. Such a procedure, of course, would only be effective in large-group situations directed by the teacher and would undoubtedly become cumbersome when several classroom groups are involved or on occasions when individual children are allowed to move freely about the classroom.

The present data suggests that a certain type of classroom behavior, characterized perhaps by impulsive overactivity in both on- and off-task situations, might also be an area for closer scrutiny. A factor analytic study by Spivack, Swift and Prewitt (1971) indicated similar clusters of behaviors to be characteristic of

their kindergarten sample. Seventeen percent of their kindergarten sample clustered in one category characterized by high reliance on the teacher for appropriate direction and high inattentiveness, and an additional 12 percent comprised another category described as "impulsive". Both clusters were described as being outside the "normal" pattern of kindergarten youngsters. Their data, however, was derived from secondary sources (a teacher rating scale); and it would be interesting to see to what extent such clusters occur when discrete behaviors are observed directly in the classroom.

Among factors which appear to be responsible for individual differences in the present sample, one is forced to consider the fact of a child's enrollment in a particular classroom as accounting for substantial variance. Using classroom 2 as a case in point, relatively low minority enrollment coupled with low total enrollment and the second highest mean teacher ratings might suggest certain parameters which would account for the high on-task behavior and the almost virtual absence of disruptive behavior in that classroom. This environment is in distinct contrast to that of classroom 1 where high minority and high total enrollment prevail.[4] On-task behavior in this classroom is significantly lower, and disruptive behavior is the highest of the four classrooms. Given the significant

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[4] This classroom was also characterized by relatively high absenteeism, i.e., it took a higher mean number of days to complete the required number of observations in that classroom (14.4 days) then it did in classroom 2 (12.8 days).

differences in observable behavior found in March between minority and non-minority children[5] and the greater number of children in that classroom, it is a possibility that the teacher in classroom 1 was in a situation where "the deck was stacked", albeit inadvertently, against her.

While a high enrollment of boys in classroom 2 is somewhat incompatible with high on-task behavior (given the finding that boys were generally lower than girls in on-task behavior), retrospective discussions with both observers and teachers indicated that activity in that classroom during the daily observations was of a more physically active and participatory nature which might be said to favor boys at that age. Although a decided effort was made to parcel out the effects of classroom activities by keeping teaching situations in all classrooms similar during observation periods (i.e., teacher in front of class directing a group activity), it is evident that such situations need to be more carefully controlled than was possible in the present study.

A final note needs to be made of teacher involvement, particularly the apparent high predictability of teacher ratings from one period to the next. The correlation of .86 may be interpreted, on the one hand, as a decided vote of confidence in the predictability of teacher ratings. Henderson and Long (1971) also found that extensive teacher ratings at the beginning of school were able to differentiate between academically successful and non-successful children in later grades. One might well ask, at this point, why such extensive and complicated

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[5] Similar racial differences were also found by Cobb(1970,1972).

observation techniques need to be undertaken at all when simple teacher ratings are so much easier and obviously have such greater predictive validity.

On the other hand, caution needs to be exercised because of the possibility of expectancy effects (Good and Brophy, 1972; Rosenthal and Jacobsen, 1968). Some would suggest that "a child whose teacher believed him to have a problem did indeed have a problem whether the 'true' source lay in his own behavior or in the perceptions of his teacher" (Rabin and Balow, 1971, page 297). While this line of reasoning was not necessarily born out by the present study, it remains to be seen whether teacher ratings or classroom observation data more accurately predicts subsequent school problems in the long run. High-risk children in the present study are currently being followed as they move through the primary grades precisely to determine the answer to this question.

IMPLICATIONS FOR SCHOOL PRACTICE

In the present study, every attempt possible was made to simulate actual conditions under which the technique of direct classroom observation would ultimately be used in a school situation. Observers could just as well have been teachers from other classrooms or classroom aides. Time-sampling techniques and observation categories were kept relatively simple, at least compared to the rather complex methodology employed in other studies. Interruption of ongoing classroom activities was held to an absolute minimum, and demands on individual teacher's time were also minimal. Although the observation data gathered was used en masse to answer larger research questions, data on individual children was extremely useful in predicting eventual school problems.

Not only was the observational data useful as a predictive procedure, but it also served to clarify the nature of the child's difficulty. Children with high disruptive behavior would require somewhat different management approaches than children with "impulsive" behavior (i.e., high percent of behavior in both appropriate and inappropriate situations). Both would require substantially different classroom management than a child with low attending behavior but little accompanying disruptive or participatory behavior. Those children whose behavior is accompanied by high levels of teacher or peer response might require different handling than those whose comparable behavior evoked less reaction from others in the classroom.

While teachers are undoubtedly aware of most of these problems and their remedies, it was quite obvious that some children were identified as high-risks by teachers but not by their observable behavior and vice-versa. What becomes of the child whom the teacher sees as problematic despite his relatively high level of on-task behavior and a virtual absence of disruptive behavior? What happens to a child whom the teacher does not see as having substantial problems but whose observation data suggests a significant deficit in attentional behavior? It is clear that observation data as derived herein adds a significant dimension to early detection of school problems quite beyond that lent by our traditional procedures.

There are additional questions to be considered as one attempts to apply these techniques pragmatically in an ongoing early screening program. A pressing problem is that suggested by the significant differences found between classrooms. Does a child have a problem if his on-task behavior is near the average for his classroom but significantly lower than the mean on-task behavior for his school?

Should one choose some absolute standard for acceptable levels of observable behavior? Previous studies have found that normal children engage in on-task behavior in the primary grades anywhere from 70 to 80 percent of the time. While it is premature, at this point, to suggest that national grade-level norms for observable classroom behavior be established (much like representative norms are established for standardized achievement tests), it is probably important to attempt to parcel out the effects of classroom enrollment in some way. One possibility is to use a measure of one standard deviation below the mean percent of on-task behavior for the entire kindergarten sample regardless of classroom. An alternative would be to employ a correction factor using the average between the standard deviation for that child's classroom and the standard deviation of the total sample. Some balance needs to be achieved, however, between relative and absolute norms or else the predictability of observable behavior will become as compromised as that of current standardized intelligence tests.

Quite apart from the question of predictive validity, direct observation appears to have administrative uses. It was evident that some classrooms in the present study were quantitatively different in terms of total enrollment and percent of male and minority enrollment. In one classroom in particular, these differences tended to reflect in observable behavior of children. This is not to say that a greater number of children or imbalances in sex ratio or minority status necessarily foreordain a particular classroom to difficulties; for also in this classroom were a handful of youngsters with fairly severe behavior problems, both in severity and degree quite unlike these of kindergartners in other classrooms in the same

school. It was readily apparent, therefore, after a few days of observation that this classroom was qualitatively different from the others. In retrospect, observational data was able to corroborate and imbalance which could have been corrected, had the present study not been in progress, by transferring a few children to each of the other classrooms early in the school year.

In actual practice, such a procedure as well as individual interventions for high-risk children within their own classrooms would obviously have been carried out immediately subsequent to the October observations. The latter was in fact accomplished in the two months following the March observation period. Individual tutoring and cooperative work with classroom teachers were planned and carried out at that point, in many cases using the data derived from classroom observations on attention, peer interaction, teacher response and disruptive behavior. Some interventions were individualized, others involved small groups of children, and yet others involved cooperative ventures with classroom teachers in curriculum consultation and use of behavior modification techniques. All were designed to prevent incipient problems in learning or behavior from becoming more serious. While these procedures undoubtedly jeopardized the validity of follow-up results, records were kept on each child's progress such that those children who fail to maintain satisfactory progress in later grades will be considered in terms of the time limits and intensity of their attempted interventions.

While the relationship between observable behavior and academic progress has been fairly well established in older children, the present study appears to have extended this relationship downward, at least insofar as teacher evaluations of classroom adjustment, reading readiness and peer relations can be said to comprise an

appropriate measure of academic progress in kindergartners. Annual follow-up of these children should eventually be able to provide answers as to direct links, if any, to specific clusters of classroom behaviors observed at the beginning of kindergarten and a child's ultimate needs for special class placement or other forms of intervention.

References

Bryan, T. S. and Wheeler, R. Perception of learning disabled children: The eye of the observer. Journal of Learning Disabilities. 1972, 5, 484-488.

Cobb, J. A. Survival skills and first grade academic achievement. Report No. 1. Eugene, Oregon: Center for Research and Demonstration in Early Education of Handicapped Children. 1970.

Cobb, J. A. Relationship of discrete classroom behaviors to fourth grade academic achievement. Journal of Educational Psychology. 1972, 63, 74-80.

Cobb, J. A. and Hops, W. Effects of academic survival skill training on low achieving first graders. Journal of Educational Research, in press.

Forness, S. Educational prescription for the school psychologist. Journal of School Psychology. 1970, 8, 96-98.

Forness, S. Classroom observation of potential special education children. Technical Report: UCLA Special Education Research Center, 1972.

Forness, S. and Esveldt, K. Classroom observation of children referred to a child psychiatric clinic. Journal of Child Psychiatry, in press.

Gampel, D. H., Harrison, R. H. and Budoff, M. An observational study of segregated and integrated EMR children and their nonretarded peers: Can we tell the difference by looking? Studies in Learning Potential, Volume 2. Cambridge, Massachusets: Research Institute for Educational Problems, 1972.

Good, T. and Brophy, J. Behavioral expression of teacher attitudes. Journal of Educational Psychology. 1972, 63, 617-724.

Haring, N. and Ridgeway, R. Early identification of children with learning disabilities. Exceptional Children. 1967, 33, 387-398.

Henderson, E. H. and Long, B. H. Personal-social correlates of academic success among disadvantaged school beginners. Journal of School Psychology. 1971, 9, 101-113.

Jackson, P., Silberman, M. and Wolfson, B. Signs of personal involvement in teachers' descriptions of their students Journal of Educational Psychology. 1969, 60, 22-27.

Keogh, B. K. Psychological evaluation of exceptional children: Old hangups and new directions. Journal of School Psychology. 1972, 10, 141-146.

Keogh, B. K. and Smith, C. E. Early identification of educationally high-potential and high-risk children. Journal of School Psychology. 1970, 8, 285-290.

Lahaderne, H. M. Attitudinal and intellectual correlates of attention: A study of four sixth-grade classrooms. Journal of Educational Psychology. 1968, 51, 320-324.

Nelson, C. M. Techniques for screening conduct disturbed children. Exceptional Children. 1971, 37, 501-507.

Rosenthal, R. and Jacobsen, L. Pygmalian in the classroom: New York: Holt, Rinehart, and Winston, 1968.

Rubin, R. and Balow, B. Learning and behavior disorders: A longitudinal study. Exceptional Children. 1971, 38, 293-300.

Silberman, M. Behavioral expression of teachers' attitudes toward elementary students. Journal of Educational Psychology. 1969, 60, 402-407.

Spivack, G., Swift, M. and Prewitt, J. Syndromes of disturbed classroom behavior: A behavioral diagnostic system for elementary schools. Journal of Special Education. 1971, 5, 269-292.

Table 1

MEAN PERCENTAGES FOR OCTOBER OBSERVATION (N=106)

	Verbal Positive			Attend			Not Attend			Disrupt			Total Positive (VP+AT)		
	Mean	Range	s.d.	Mean	Range	s.d.	Mean	Range	s.d.	Mean	Range	s.d.	Mean	Range	s.d.
Classroom 1	6.4	1-14	3.6	70.4	47-90	10.6	20.3	8-39	8.5	2.9	0-13	3.2	76.8	53-92	10.4
2	4.6	1-12	3.1	82.9	63-92	7.6	12.4	4-27	6.6	0.1	0-1	0.2	87.5	73-96	6.7
3	7.0	0-19	4.3	74.4	49-89	10.6	18.4	5-46	9.8	0.2	0-2	0.6	81.4	54-95	9.9
4	7.4	1-18	3.5	75.0	59-86	7.3	15.5	6-27	5.1	2.1	0-7	1.9	82.4	71-92	5.8
Total Sample	6.4	0-19	3.8	75.5	47-92	10.1	16.7	4-46	8.2	1.4	0-13	2.3	81.9	53-96	9.2

Table 2

MEAN PERCENTAGES FOR MARCH OBSERVATION (N=94)

	Verbal Positive			Attend			Not Attend			Disrupt			Total Positive (VP+AT)		
	Mean	Range	s.d.	Mean	Range	s.d.	Mean	Range	s.d.	Mean	Range	s.d.	Mean	Range	s.d.
Classroom 1	8.6	2-15	3.7	70.4	46-92	11.4	19.5	5-43	9.0	1.5	0-11	2.4	79.0	53-95	10.7
2	4.5	0-11	2.9	86.5	74-95	5.8	9.8	3-19	4.9	0.1	0-1	0.1	91.0	81-97	4.9
3	11.8	2-19	4.2	74.6	62-90	7.7	13.5	4-30	6.7	0.1	0-2	0.3	86.4	68-96	6.9
4	6.1	1-17	3.7	78.0	61-92	8.4	15.2	5-30	6.9	0.7	0-3	0.1	84.1	67-94	7.6
Total Sample	7.9	0-19	4.6	77.0	46-95	10.5	14.4	3-43	8.0	0.6	0-11	1.5	84.9	53-97	8.9

Table 3

MEAN PERCENT OF TIME IN WHICH CHILDREN RECEIVED RESPONSE FROM TEACHER AND PEERS FOR ON-TASK (VP+AT) AND OFF-TASK (NA+D) BEHAVIOR IN OCTOBER

	On-task				Off-task				Total			
	Teacher		Peer		Teacher		Peer		Teacher		Peer	
Class	Mean	Range	Mean	Range	Mean	Range	Mean	Range	Mean	Range	Mean	Range
1	4.2	1-12	6.3	1-13	1.7	0-7	7.2	2-15	5.9	1-14	13.5	4-27
2	2.8	0-13	1.1	0-4	0.3	0-2	0.8	0-4	3.1	1-13	1.9	0-5
3	3.8	1-9	4.8	1-11	0.7	0-4	1.8	0-8	4.5	1-11	6.6	1-15
4	3.2	1-7	6.3	4-11	0.8	0-3	5.7	1-14	4.0	2-7	12.0	6-24
Total	3.5	0-13	4.7	0-13	0.9	0-7	4.0	0-15	4.4	1-14	8.7	0-27

Table 4

MEAN PERCENT OF TIME IN WHICH CHILDREN RECEIVED RESPONSE FROM TEACHER AND PEERS FOR ON-TASK (VP+AT) AND OFF-TASK (NA+D) BEHAVIOR IN MARCH

	On-task				Off-task				Total			
	Teacher		Peer		Teacher		Peer		Teacher		Peer	
Class	Mean	Range	Mean	Range	Mean	Range	Mean	Range	Mean	Range	Mean	Range
1	4.8	0-12	11.7	4-25	2.1	0-9	6.6	1-15	6.9	1-21	18.3	6-34
2	2.7	0-9	0.8	0-3	0.5	0-6	1.7	0-6	3.2	0-10	2.5	0-6
3	4.1	0-17	6.5	0-13	0.6	0-3	1.7	0-5	4.7	0-21	8.2	0-16
4	2.8	0-7	2.2	1-7	1.0	0-4	6.0	2-12	3.8	0-9	8.2	2-19
Total	3.7	0-17	5.7	0-25	1.1	0-9	3.9	0-15	4.8	0-21	9.6	0-34

Table 5

NUMBER OF CHILDREN AND PERCENT OF MALE AND MINORITY ENROLLMENT FOR EACH CLASSROOM

Class	Number	Percent Boys	Percent Minority Enrollment			
			White	Black	Spanish	Other
1	28	47	36	11	46	7
2	25	60	60	0	24	16
3	26	62	55	7	34	4
4	27	41	45	11	44	0
Total	106	52	48	8	38	6

Table 6

MEAN TEACHER RATINGS FOR OCTOBER AND MARCH

	October			March		
Class	Mean	Range	s.d.	Mean	Range	s.d.
1	8.32	3-14	2.4	8.33	4-12	1.9
2	9.40	3-15	3.4	10.04	4-15	3.2
3	13.19	6-15	2.6	11.64	4-15	3.3
4	8.89	6-12	2.2	9.47	6-12	1.9
Total	9.92	3-15	3.3	9.86	4-15	2.9

Table 7

ANALYSES OF VARIANCE FOR PERCENT OF ON-TASK BEHAVIOR IN OCTOBER AND MARCH

Source	Sum of Squares	Degrees of Freedom	Mean Square	F
October On-task	575674	1	575674.18	7599.51
Classroom	1050	3	350.09	4.62 *
Sex	425	1	424.73	5.61 *
Race	181	1	180.94	2.39
Class x Sex	245	3	81.67	1.08
Class x Race	24	3	7.98	0.10
Sex x Race	2	1	2.19	0.03
Class x Race x Sex	61	3	20.28	0.27
Error	5909	78	75.75	
March On-task	616286	1	616285.81	11021.51
Classroom	1483	3	494.28	8.84 *
Sex	348	1	348.11	6.22 *
Race	301	1	300.81	5.38 *
Class x Sex	371	3	123.67	2.21
Class x Race	174	3	58.11	1.04
Sex x Race	13	1	12.90	0.23
Class x Race x Sex	80	3	26.58	0.48
Error	4362	78	55.92	

*$p \leq .05$

Table 8

ANALYSIS OF COVARIANCE FOR DIFFERENCES IN ON-TASK BEHAVIOR FROM OCTOBER TO MARCH (OCTOBER TEACHER RATING AS COVARIANT)

Source	Sum of Squares	Degrees of Freedom	Mean Square	F
Mean difference	20	1	19.69	0.33
Classroom	160	3	53.32	0.89
Sex	8	1	8.34	0.14
Race	8	1	8.43	0.14
Class x Sex	115	3	38.41	0.64
Class x Race	98	3	32.66	0.55
Sex x Race	6	1	5.92	0.10
Class x Sex x Race	192	3	64.06	1.07
Covariant	9	1	9.18	0.15
Error	4600	77	59.74	

Table 9

CORRELATIONS BETWEEN TOTAL PERCENTAGES OF SELECTED OBSERVABLE BEHAVIORS AND TOTAL TEACHER RATINGS FOR BOTH OCTOBER AND MARCH (N=94)

Variables			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	October:																
1.	"	Verbal Positive															
2.	"	Attention	-.43														
3.	"	Not Attend	-.02	-.87													
4.	"	Disrupt	.31	-.62	.35												
5.	"	Total On-task (VP+AT)	-.05	.93	-.97	-.55											
6.	"	Teacher Response (On-task)	.43	-.30	.11	.24	-.16										
7.	"	Teacher Response (Off-task)	.10	-.70	.63	.69	-.73	.16									
8.	"	Peer Response (On-task)	.56	-.35	.07	.36	-.15	.17	.16								
9.	"	Peer Response (Off-task)	.25	-.56	.39	.71	-.52	.10	.43	.59							
10.	"	Teacher Rating	-.03	.32	-.26	-.46	.34	-.12	-.46	-.06	-.34						
	March																
11.	"	Verbal Positive	.51	-.36	.15	.17	-.18	.28	.15	.42	.17	.32					
12.	"	Attention	-.34	.71	-.56	-.61	.65	-.31	-.64	-.40	-.52	.28	-.52				
13.	"	Not Attend	.12	-.65	.59	.57	-.66	.21	.64	.25	.51	-.48	.09	-.89			
14.	"	Disrupt	.14	-.43	.29	.65	-.41	.18	-.57	.18	.42	-.38	.14	-.65	.59		
15.	"	Total On-task(VP+AT)	-.13	.65	-.58	-.62	.66	-.22	-.67	-.25	-.53	.49	-.10	.90	-.99	-.69	
16.	"	Teacher Rating	-.10	.43	-.37	-.45	.44	-.12	-.45	-.14	-.40	.86	.18	.39	-.54	-.40	.55

Correlations of .27 and above are significant at .01 level

Table 10

CORRELATIONS BETWEEN TEACHER RATINGS AND TOTAL ON-TASK BEHAVIOR FOR BOTH PERIODS BY CLASSROOM*

CLASSROOM	ON-TASK OCTOBER WITH SAME IN MARCH	TEACHER RATING OCTOBER WITH SAME IN MARCH	ON-TASK OCTOBER WITH TEACHER RATING MARCH	TEACHER RATING OCTOBER WITH ON-TASK MARCH
1.	.70	.91	.46	.69
2.	.37	.90	.37	.58
3.	.63	.83	.50	.65
4.	.47	.81	.69	.20
TOTAL	.66	.86	.44	.49

*Note: Correlations of approximately .40 are required for significance ($p \leq .05$, with 23 degrees of freedom).

Table 11

CLASSROOM RANKING OF LOWEST SEVEN CHILDREN IN EACH CLASSROOM BY PERCENT OF ON-TASK (VP+AT) BEHAVIOR IN OCTOBER TOGETHER WITH THEIR TEACHER RATINGS AND ON-TASK BEHAVIOR IN MARCH

(Percent of Behavior Given in Parentheses)

Classroom		On-task		Teacher Rating	
	Subject	October	March	October	March
1.	1	→ 22 (70)	12 (80)	10	12
	2	23 (66)	9 (84)	9	9
	3	24 (65)	21 (75)	9	9
	4	25 (64)	22 (75)	4	6
	5	26 (61)	27 (53)	3	4
	6	27 (59)	24 (67)	7	7
	7	28 (53)	26 (57)	5	6
2.	1	19 (86)	18 (88)	8	9
	2	20 (82)	17 (89)	10	12
	3	→ 21 (79)	5 (96)	8	8
	4	22 (78)	21 (82)	4	6
	5	23 (77)	22(81)	6	7
	6	24 (74)	4 (96)	14	15
	7	25 (73)	19 (87)	3	4
3.	1	20 (77)	6 (92)	15	11
	2.	21 (76)	10 (90)	13	9
	3	22 (74)	8 (90)	14	14
	4	→ 23 (72)	19 (82)	11	11
	5	24 (66)	22 (76)	6	4
	6	25 (60)	16 (86)	15	12
	7	26 (54)	25 (68)	10	7
4.	1	21 (78)		11	
	2	22 (78)	12 (82)	11	9
	3	23 (77)	10 (85)	6	8
	4	→ 24 (74)	17 (70)	6	7
	5	25 (73)	13 (82)	8	7
	6	26 (73)		7	
	7	27 (71)		6	

NOTE: → refers to point at which one standard deviation occurs (as derived from Table 1.)

APPENDIX

BEHAVIOR DEFINITIONS*

Verbal Positive (VP) - Pupil engages in, initiates or attempts to initiate on-task verbal response with teacher or peer, e.g., asks questions, recites, answers questions, reads aloud or makes statements. Category is checked when pupil talks with teacher or peer about non-task material when this does not violate classroom rules. Also coded when pupil raises hand to ask or answer question (or uses other means to attract attention in order to speak when these do not constitute a violation of rules or an interruption, e.g., tugs teacher's sleeve to get her to turn around). Observable shakes of the head "yes" or "no" are coded in this category when these do not signify non-compliance.

Attend (AT) - Pupil indicates by his behavior that he is doing what is appropriate in the school situation, e.g., he is looking at the teacher when she is presenting material to the class; he is looking at visual aids as the teacher talks about them; he has his eyes focused on his book as he does the reading assignment; he writes answers to arithmetic problems. If subject's eyes are not observable, head orientation toward teacher, book, etc. will count as "attend". Attending behavior may include non-task behavior if appropriate within the classroom context, e.g., waiting quietly for lesson to begin. When an appropriate but verbal response is observed, the behavior is coded VP.

Not Attend (NA) - Pupil is not attending to task at hand or not attending to discussion when teacher is presenting material. Category is checked when child is not attending but, at the same time, is not engaging in potentially disruptive behaviors. Coded when person is looking around the room, looking out the window or staring into space when an academic activity is occurring. This category is applicable to those situations in which the subject is working but on the wrong assignment. Also coded when person attempts to stimulate himself in such ways as swinging his feet, rubbing his nose, ears, forehead, tapping his fingers, scratching, etc., to such an extent that attention to other activities is precluded.

Disrupt (D) - Pupil engages in behavior potentially disruptive of on-task activities, e.g., talks to peer about non-task material during academic work, throws things, gets out of seat and wanders around room whenever this is not allowed, or makes noises that are likely to be disruptive. Coded when pupil interrupts teacher to make comments or ask questions irrelevant to task. Code when pupil physically or verbally attacks another person or when pupil refuses to comply with a direct request from teacher, e.g., hits peer, talks back to teacher, refuses to sit down when asked or calls peer a name.

RESPONSE DEFINITIONS

0 - When no response to a behavior is observed.

Teacher Response - used when teacher gives an observable gestural, verbal or physical response to subject's behavior. As a response teacher may initiate interaction with subject, e.g., teacher may approach subject's desk or work area during independent study. When the teacher fixes her gaze on the subject even without clearly defined verbal or gestural expression, this shall also be coded as a teacher response.

Peer Response - used when peer gives an observable gestural, verbal or physical response to subject's behavior. Also include sustained looks or eye contact without clear verbal or gestural expression.

*Revised from Cobb (1970)

S. Forness/9/72

Date _____ Classroom _____ # in class _____

Name or #		No response	Teacher response	Peer response
	VP			
	AT			
	NA			
	D			
	VP			
	AT			
	NA			
	D			
	VP			
	AT			
	NA			
	D			
	VP			
	AT			
	NA			
	D			
	VP			
	AT			
	NA			
	D			
	VP			
	AT			
	NA			
	D			
	VP			
	AT			
	NA			
	D			
	VP			
	AT			
	NA			
	D			

Teacher's Name _____

TEACHER EVALUATION

We are interested in your impressions of how each child is functioning comparable to other children in your classroom at this point in the year. Please rate each child in all three areas below by placing scores from 1 to 5 next to his name:

1 - indicates that he is functioning poorly in the area
2 - indicates that he is slightly below average
3 - indicates that he is about average
4 - indicates that he is slightly above average
5 - indicates that he is doing very well

Definitions for the areas given below are the same ones you would use in your Kindergarten Progress Report for this time of the year.

Child's Name	Reading Readiness and Language Development	Relationships with Other Children	Attitude Toward Classroom Rules
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

[redacted]

KINDERGARTEN PROGRESS

20th Week Report

Social Development

1	Your child's attitude toward other children		Plays with other children. Shares. Accepts role as either leader or follower. Is courteous.
2	Your child's attitude toward school work		Tries to do his best. Follows directions. Does neat work.
3	Your child's attitude toward class and school rules		Listens and speaks in turn. Returns things to proper place. Obeys safety rules. Respects teacher.
4	Your child's use of time		Goes from one activity to another on his own. Finishes work on time. Can work independently.
5	Physical Coordination		Skips, hops and jumps to music. Uses outdoor equipment correctly. Bounces and catches large ball.
6	Reading Readiness and Language development		Recognizes 8 colors: orange, red, yellow, green, blue, black. Can print first name. Knows 6 alphabet letters. Knows street number and name.
7	Mathematics		Recognizes 1-10. Counts 1-20. Writes 5 numerals correctly.
	Key ---------- S satisfactory N needs to improve		Attendance Days absent Days present Days tardy
	Teachers Comments:		

Teacher

Appendix

List of Projects Funded (1972-73)

Screening Kindergarten Children for Early Intervention Through Direct Observation of Classroom Behavior.

Steven R. Forness

Development of a Teacher Administered Behavior Rating Scale to Determine Communication Skills of Multihandicapped Children.

Glenda Gay

Behavioral Characteristics and Learning Styles of Educationally High-Risk Kindergarten Children .

Barbara K. Keogh
Laurence D. Becker

Teachers' Perceptions of High-Risk Indicators in Children of Minority, Low Socio-Economic Status.

Barbara K. Keogh
Adele Windeguth

Measurement of Childrens' Perceptual Style: A Methodological Study.

Barbara K. Keogh
Karen Tardo

Delivery of Educational Services to Special Education Children in Rural Areas of California.

Barbara K. Keogh
Laurence D. Becker
Maurine Kukic
Martha Lyon
Stevan Kukic

School Psychological Services for Special Education Children: Review and Recommendations.

Barbara K. Keogh
Laurence D. Becker
Robert McLaughlin
Stevan Kukic
Maurine Kukic

Development of a Technique to Evaluate Language Abilities of School Age Deaf and Hard of Hearing Children.

Janice Laine

Assessing the Characteristics of Educable Mentally Retarded and Educationally Handicapped Students Related to Successful Integration into a Regular Classroom.

Douglas Palmer
Frank M. Hewett

Research with the Gifted. Implications for Program Development and Teacher Training.

May V. Seagoe
Barbara Mills

Development of a Technique to Improve Listening and Comprehension Skills of Multihandicapped Children.

Rose-Marie Swallow

Development of Assessment Procedures which Provide the Basis for Teacher Development of Curricular Materials and Techniques for Multihandicapped Programs.

Annette Tessier
Rose-Marie Swallow
Marie Poulsen